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09/558,787	04/26/2000	Yuriko Kishitaka	SONYJP3.0-114	1701

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EXAMINER	
LONSBERRY, HUNTER B	
ART UNIT	PAPER NUMBER
2611	

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/558,787	KISHITAKA ET AL.	
	Examiner	Art Unit	
	Hunter B. Lonsberry	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-7 and 10-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-7 and 10-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicants argues that it would not be obvious to modify Raychaudhuri with Surine because Surine utilizes fixed sizes which do not change in response to any condition therefore the buffer size must be fixed, while Raychadhurdi does not (amendment pages 11-12).

Surine is relied upon merely to teach determining a buffer size in response to a power on signal, however Surine does disclose dynamically changing the buffer size when a different mode is selected but loading the required files as well as deallocating previously used resources in order to free up new buffer space, thus preventing a buffer underflow or over flow (column 9, lines 11-20, 36-column 10, line 7). While Raychaudhuri clearly teaches determining an optimal buffer size, while power is supplied to the device, Raychadhuri does not disclose determining the buffer size in

response to a power on signal. Newly cited US Patent Application 2002/0012530 A1, in combination with Raychaudhuri and Surine discloses setting up an optimal buffer size based upon a prestored value in memory, in response to a power on signal.

Applicant argues that there is no where within the references the Examiner may point into to provide the basis to conclude that it would be desirable and advantageous to have a system that includes the features of preventing buffer underflow or overflow and insuring that the buffer would be available as soon as possible (amendment page 12).

As noted above, Surine discloses on column 9, lines 11-20, 36-column 10, line 7, dynamically allocating resources depending on the current mode of operation thus preventing a buffer over/underflow by reallocation of resources. Raychaudhuri in combination with Surine (which establishes its memory allocation upon startup, column 8, line 50-column 9, line 10) is relied upon teaching an optimal buffer size upon boot up.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a

reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Applicant argues there is no motivation to combine the references (amendment page 11).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Howe is relied upon for teaching a receiver which receives multiplexed transport stream data which is MPEG2 data encapsulated in ATM cells, via a receiver which has a processor and memory (column 9, lines 54-65, column 21, lines 20-29), but does not specifically disclose the use of a demultiplexer (nor is it specifically described how the ATM formatted MPEG2 streams are converted into a form processable by the receiver of Howe), and buffer memory which utilizes a buffer sizing algorithm which sizes the buffer depending upon a streams bitrate, the algorithm preformed in response to a power on signal. Metz discloses a similar system (column 16, line 48-column 17, line 16, column 23, lines 16-56, column 32, lines 4-31) in which includes a demultiplexer, and inherently

includes buffer memory, as a buffer is required to store the ATM cells prior to reassembling the cells into MPEG 2 streams. Metz is relied upon to teach how the MPEG2 ATM encapsulated is processed by the receiver, and the use of a demultiplexer and buffer memory. Raychadhuri is relied upon for teaching a buffer sizing algorithm in an ATM system (column 7, line 35-column 8, line 3), which must occur while power is supplied to the processor logic. Combining Raychadhuri with Howe and Metz would be desirable as the resulting system would allocate enough memory for the received bitstream and insure that a buffer underflow or overflow would not occur which would otherwise result in the improper display of a video image. The combination specifically fails to disclose performing the buffer sizing algorithm in response to a power on signal. Surine is relied upon for teaching initializing a buffer allocation after powering up in an embedded system, more specifically, a processing unit 305 executes boot code 401 from ROM 310, which instantiates the operating system and sets up the various buffers and working memories (column 5, lines 9-47). Combining Howe, Metz, and Raychadhuri with Surine would provide an advantageous feature in that Surine ensures that a buffer would be available as soon as possible upon initialization of the device. The combination of Howe, Metz, Raychadhuri and Surine, would result in a system in which a broadcast receiver with a processor and memory, executes a buffer sizing algorithm upon receiving a power up signal to allocate and reserve memory within the broadcast receiver to process incoming MPEG2 data which is encapsulated in ATM streams as required by claims 1 and 7.

Applicant's failure to traverse the official notice taken in the previous Office Action is taken as admission of prior art.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 4-7, and 10-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,892,508 to Howe in view of U.S. Patent 5,978,855 to Metz, U.S. Patent 5,684,791 to Raychaudhuri, U.S. Patent Application 2002/0012530 to Bruls and U.S. Patent 6,212,632 to Surine.

Regarding claims 1, 6, 7 and 12, Howe discloses a broadcast receiver 100 (figure 8) for separating multiplexed transport stream data (digital MPEG2 streams encapsulated in ATM cells, column 9, lines 54-65, column 21, lines 20-29),

A receiving unit 1218 for receiving the multiplexed transport stream data (column 21, lines 21-29),

A memory 1229/1230,

A processing unit 1228 (column 22, lines 10-27).

Howe fails to disclose a memory for storing said received transport stream data, a processing unit which determines an optimal buffer size in accordance with a bit rate of said received transport stream data, prestoring a bitrate value based on the

transporting stream data and corresponding to a source of the broadcast, and reserves in memory in response to a power on signal in the receiver, a storage area having a optimal buffer size, and a demultiplexer which utilizes the storage area for separating transport packets from the received transport stream,

Metz discloses in Figure 6, a Set top box 100, which receives MPEG 2 video encapsulated in ATM cells that encapsulated by ATM multiplexer 29, an ATM demux and MPEG system demux 127 within the STB 100 reassembles the MPEG video/audio prior to it being supplied to audio decoder 131 and video decoder 129 (column 16, line 48-column 17, line 16, column 23, lines 16-56, column 32, lines 4-31). Metz inherently includes a buffer, as a buffer is required to store the ATM cells prior to reassembling the cells into MPEG 2 streams.

Therefore it would have been obvious to one skilled in the art at the time of invention to modify Howe to transmit MPEG 2 video encapsulated in ATM cells which is converted back into MPEG 2 video at the Set Top Box which utilizes a demultiplexer and memory as taught by Metz thus providing more bandwidth for each channel.

The combination of Howe and Metz fail to disclose a buffer sizing scheme, which allocates a buffer size according to a received bitrate, prestoring a bit rate value based on the transport stream data and corresponding to a source of origin for the broadcast, the buffer sizing preformed in response to a power on signal.

Raychaudhuri discloses a data link control layer in which buffer size is determined by the bit rate for the transmitted ATM stream (column 7, line 35-column 8,

line 3), thus allocating enough memory for the received bitstream and insurance that a buffer underflow or overflow resulting in the improper display of a video image.

Therefore it would have been obvious to one skilled in the art at the time of invention to modify Howe and Metz to include the ATM buffer size bit rate determination as taught by Raychaudhuri, thus insuring that a buffer would not underflow/overflow resulting in the improper display of a video image.

The combination of Howe, Metz and Raychaudhuri fails to disclose performing the buffer size determination after a power on signal is issued, and prestoring a bit rate value based on the transport stream data and corresponding to a source of origin for the broadcast.

Bruls discloses a buffering system that prestores bitrate information related to a program which has a start and end time specified by a user in advance and utilizes different bitrates according to the contents of the signal (source of origin), additionally the bitrate may be a prestored value based upon the average bitrate of incoming transport stream signals over time, (paragraphs 22-26, 28) thus maximizing the available buffer space by utilizing a bitrate that is appropriate for the content signal.

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the combination of Howe, Metz, Raychaudhuri to prestore a bitrate value based on transport stream data and source of origin, as taught by Bruls, thus maximizing the available buffer space by utilizing a bitrate that is appropriate for the content signal.

The combination of Howe, Metz, Raychaudhuri and Bruls fails to disclose performing the buffer size determination after a power on signal is issued

Surine discloses a buffer function, which is loaded from ROM and then is setup within an embedded computer system's RAM for allocating buffer memory upon the powering up of the device (figures 8, 9, column 4, lines 46-column 6, line 2, column 7, lines 45-57, column 8, line 65-column 9, line 21), thus ensuring that a buffer would be available as soon as possible. Surine inherently detects a power up signal, as Surine discloses in Figure 8 and 9, that the boot code from the ROM is executed after power up steps 801 and 901.

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the combination of Howe, Metz, Raychaudhuri and Bruls to load up a buffer program upon device startup as taught by Surine, thus enabling a device to receive and process data as soon as possible.

Regarding claims 4, 5, 10, and 11, Howe discloses the use of non-volatile memory 1214 for storing information (column 21, lines 1-29). Howe does not disclose storing the buffer size-determining program in non-volatile memory, but does disclose memory 1229 and 1230 for storing system software (column 22, lines 11-29).

Surine discloses a buffer function, which is loaded from ROM and then is setup within an embedded computer system's RAM for allocating buffer memory upon the powering up of the device (figures 8, 9, column 4, lines 46-column 6, line 2, column 7, lines 45-57, column 8, line 65-column 9, line 21).

Regarding claims 13 and 15, Howe discloses a broadcast receiver 100 (figure 8) for separating multiplexed transport stream data (digital MPEG2 streams encapsulated in ATM cells, column 9, lines 54-65, column 21, lines 20-29), which utilizes a processor, which loads data from computer readable medium (column 22, lines 10-20),

A processing unit 1228, reads instructions from a computer readable medium (column 22, lines 10-27).

Howe fails to disclose if the program is executed immediately in response to a power reset signal generated by the receiver, determining an optimal buffer size in accordance with a bit rate of said received transport stream data, reserving in memory in a storage area having a optimal buffer size, and prestoring a bit rate value based on the transport stream data and corresponding to a source of origin for the broadcast.

Metz discloses in Figure 6, a Set top box 100, which receives MPEG 2 video encapsulated in ATM cells that encapsulated by ATM multiplexer 29, an ATM demux and MPEG system demux 127 within the STB 100 reassembles the MPEG video/audio prior to it being supplied to audio decoder 131 and video decoder 129 (column 16, line 48-column 17, line 16, column 23, lines 16-56, column 32, lines 4-31). Metz inherently includes a buffer, as a buffer is required to store the ATM cells prior to reassembling the cells into MPEG 2 streams.

Therefore it would have been obvious to one skilled in the art at the time of invention to modify Howe to transmit MPEG 2 video encapsulated in ATM cells which is

converted back into MPEG 2 video at the Set Top Box which utilizes a demultiplexer and memory as taught by Metz thus providing more bandwidth for each channel.

Howe and Metz fail to disclose a buffer sizing scheme, which allocates a buffer size according to a received bitrate, prestoring a bit rate value based on the transport stream data and corresponding to a source of origin for the broadcast and the buffer sizing preformed in response to a power reset signal.

Raychaudhuri discloses a data link control layer in which buffer size is determined by the bit rate for the transmitted ATM stream (column 7, line 35-column 8, line 3), thus allocating enough memory for the received bitstream and insurance that a buffer underflow or overflow resulting in the improper display of a video image.

Therefore it would have been obvious to one skilled in the art at the time of invention to modify Howe and Metz to include the ATM buffer size bit rate determination as taught by Raychaudhuri, thus insuring that a buffer would not underflow/overflow resulting in the improper display of a video image.

The combination of Howe, Metz, and Raychaudhuri fail to disclose prestoring a bit rate value based on the transport stream data and corresponding to a source of origin for the broadcast and performing the buffer size determination after a power reset signal is issued.

Bruls discloses a buffering system that prestores bitrate information related to a program which has a start and end time specified by a user in advance and utilizes different bitrates according to the contents of the signal (source of origin), additionally the bitrate may be a prestored value based upon the average bitrate of incoming

transport stream signals over time, (paragraphs 22-26, 28) thus maximizing the available buffer space by utilizing a bitrate that is appropriate for the content signal.

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the combination of Howe, Metz, Raychaudhuri to prestore a bitrate value based on transport stream data and source of origin, as taught by Bruls, thus maximizing the available buffer space by utilizing a bitrate that is appropriate for the content signal.

The combination of Howe, Metz, Raychaudhuri and Bruls fail to disclose performing the buffer size determination after a power reset signal is issued.

Surine discloses a buffer function, which is loaded from ROM and then is setup within an embedded computer system's RAM for allocating buffer memory upon the powering up of the device (figures 8, 9, column 4, lines 46-column 6, line 2, column 7, lines 45-57, column 8, line 65-column 9, line 21), thus ensuring that a buffer would be available as soon as possible. Surine inherently detects a power up signal, as Surine discloses in Figure 8 and 9, that the boot code from the ROM is executed after power up steps 801 and 901.

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the combination of Howe, Metz and Raychaudhuri to load up a buffer program upon device startup as taught by Surine, thus enabling a device to receive and process data as soon as possible.

The examiner takes official notice that a user pressing a power on and a power reset button, which transmits a power on signal, is well known in the art. Power on

buttons and power reset buttons enable a user to clear a device of an error state and enable a user to turn on a device at a time of their own choosing.

Therefore it would have been obvious to one skilled in the art at the time of invention to modify the combination of Howe, Metz, Surine and Raychaudhuri to utilize a power on and power reset button, thus enabling a user to turn on a device at any time of their choosing, and allowing a user to reset a receiver if the receiver crashes.

Regarding claim 14, Howe discloses a set top box 100 in figure 8, which receives an analog or digital video signal. Metz discloses a STB 100, which converts, received ATM cells back into their original MPEG 2 streams. Raychaudhuri discloses that the buffer size determination is made as part of the Data link Control layer in a wireless ATM system. Raychaudhuri's DLC layer is inherently part of a program to be executed by the processor as the DLC layer is part of the header file for a packet and programming is required in order to recognize that layer. Raychaudhuri inherently executes the buffer sizing program when the power is turned on as Raychaudhuri detects the type of data being received and allocates the buffer sized based upon the bit rate, if Raychaudhuri did not check that function and received various streams of different bit rates, the buffer would over/underflow.

Regarding claims 16-23, Surine discloses a buffer function, which is loaded from ROM and then is setup within an embedded computer system's RAM for allocating buffer memory upon the powering up of the device (figures 8, 9, column 4, lines 46-

column 6, line 2, column 7, lines 45-57, column 8, line 65-column 9, line 21). Surine inherently detects a power up signal, as Surine discloses in Figure 8 and 9, that the boot code from the ROM is executed after power up steps 801 and 901.

Howe, Metz, Surine and Raychaudhuri do not disclose the use of a power reset, or a switch for a user to turn on the power to the device.

The examiner takes official notice that a user pressing a power on and a power reset button, which transmits a power on signal, is well known in the art. Power on buttons and power reset buttons enable a user to clear a device of an error state and enable a user to turn on a device at a time of their own choosing.

Therefore it would have been obvious to one skilled in the art at the time of invention to modify the combination of Howe, Metz, Surine and Raychaudhuri to utilize a power on and power reset button, thus enabling a user to turn on a device at any time of their choosing, and allowing a user to reset a receiver if the receiver crashes.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hunter B. Lonsberry whose telephone number is 571-272-7298. The examiner can normally be reached on Monday-Friday during normal business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Grant can be reached on 571-272-7294. The fax phone

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HBL

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